

DIALOG REPORT #8

SCIENCE SYNTHESIS REPORT

DIALOG HELD JANUARY 24, 2013

LIONS GATE HOTEL, NEAR SACRAMENTO, CALIFORNIA, AND INYO NATIONAL FOREST, BISHOP, CALIFORNIA

OVERVIEW

On January 24, 2012, the Forest Service held its eighth Sierra Cascades Dialog on the Science Synthesis. The purpose of this session was for participants to learn about the Science Synthesis report contents and how scientists considered Dialog input provided in December 2011.

Approximately 129 stakeholders in Sacramento and 20 stakeholders in Bishop, California, participated in the afternoon Dialog. Participants included Forest Service staff and stakeholders representative of diverse interest groups, including conservation/environmental, fire safe councils, contractors, county governments, forest products industry, land managers, local elected officials, private landowners, recreation, rural communities, scientists, state government, and water agencies. Although one Tribal member who works for the Forest Service attended, no other Tribal members were present. Youth were also missing from the audience.

The intent of the Dialog is for stakeholders to engage in conversation on land management issues of regional importance for the Sierra Nevada and the Cascades. The goal of the Dialog is to create shared understanding among participants with diverse opinions. Dialog outcomes inform future Forest Service management strategies. The first Dialog helped the Region to refine the Leadership Intent for Ecological Restoration. The second Dialog on *Values, Attitudes and Beliefs* has informed the Region's biological assessment for forest planning and led to the science synthesis. The third Dialog on *Improving Rural Economies* built on work underway in partnership with County elected officials, the Sierra Nevada Conservancy, the Biodiversity Council, and other initiatives around the state. The fourth Dialog on *Science Synthesis* identified questions that stakeholders would like the science synthesis to answer. The fifth Dialog vetted a Collaborative Model for each early adopter forests to use during Forest Plan revision. The current Collaborative Guide includes Dialog participants' suggestions, and the Forests are now creating Collaboration & Communication Plans, recommended in the guide, with stakeholders. The sixth Dialog on *Adaptive Management in Forest Planning* increased understanding about planning as a cyclical process. The seventh Dialog on *Recreation: Social and Economic Benefits* will inform planning by deepening understanding about demographic trends and the implications for Forests.

WHY A SCIENCE SYNTHESIS?

Joe Stringer, Region 5 Director of Ecosystem Services, welcomed the group and talked about his perspective on the Dialog and its influence on the work of the Forest Service.

HOW HAS THE DIALOG INFLUENCED THE FOREST SERVICE?

The Dialog provides an opportunity to redefine relationships: for stakeholders with each other, for the Forest Service and external stakeholders, and for the Forest Service internally.

Internal dynamics have changed as the Forest Service listens to the conversations at the Dialogs and embraces a landscape-scale approach to planning and land management. One example of changing internal dynamics includes hiring a Regional Planning Team composed of an ecologist, social scientist, and economist focused on producing forest plan revisions consistent with achieving ecological, social, and economic sustainability. Another example is the addition of a bioregional assessment to the planning process in consideration of issues larger than a single national forest.

The relationships with research partners have changed. The Forest Service is working in a closer and more collaborative manner seeking to improve how science helps find guidance for management issues. And the Forest Service has expanded the role of science and engaged the social and economic fields to provide broader understanding of challenges and opportunities. These changes are due to conversations in earlier Dialogs.

The Forest Service is using professionals to help develop and implement collaboration plans for the forests and region, to engage stakeholders and help everyone better understand values, attitudes, and beliefs. Specific Dialogs served as the catalyst for this effort.

The Dialogs are helping the Forest Service become a learning organization, an organization with the confidence to explore new methods of working to meet collective obligations to communities of interest and place, and those stakeholders yet to be born. The Living Assessment and Wiki are evidence of that.

SCIENCE SYNTHESIS

The science synthesis sprung from a Sierra Cascades Dialog in 2011 as the Dialog discussed how to use science in forest planning. The Forest Service received a request to pull together Pacific Southwest Research Station scientists to address a number of topics, which formed the basis for the research discussed at this Dialog—the Science Synthesis Report.

The Forest Service and the PSW Research Station had to make some hard choices as part of the consideration for what topics the science synthesis would cover, given limited budgets and capacity. Ultimately, they tried to identify what would provide the largest return on investment in terms of scientific knowledge and meet management needs for the three early adopter forests and the rest of the region. Now, the Forest Service is

working to address gaps in the research, including the lack of research for some topics on the Eastern Sierras and the Inyo National Forest.

SCIENCE SYNTHESIS AND FOREST PLANNING

The Forest Service will use the science synthesis to inform development of assessments, the Revised Forest Plans, and the environmental impact statements. This will constitute a scientific basis as planning proceeds, with opportunity to evaluate the science synthesis and determine its appropriate role and applicability.

Everyone can contribute by participating on the Living Assessment or in other workshops and expressing views on how to best utilize the information. The Forest Service will consider other science and seek to fill in some of the gaps. Stakeholders can help identify and fill those gaps through the assessment process in meetings and workshops, but also through the Living Assessment.

The Forest Service is learning along the way with a new rule, developing new planning processes, and establishing schedules. The Forest Service does not always have all the information needed to be as precise or accurate as desired, evident in some of the posted materials for the bioregional assessment. But the Forest Service is committed to trying new approaches and working with stakeholders in new ways under articulated timeframes and taking some calculated risks necessary to improve the forest planning process.

SCIENCE SYNTHESIS PURPOSE AND ROLE IN THE FOREST ASSESSMENT

Rick Bottoms of the Pacific Southwest Research Station (an independent Forest Service research entity) provided an introductory overview of the report. Then participants immediately met in small groups with report authors to discuss report topics.

The Science Synthesis report is a well-integrated synthesis report for forest managers and stakeholders. Region 5 leadership of the Forest Service asked the Pacific Southwest Research Station (PSW) to develop a synthesis of relevant science that could inform forest plan revision. The report distills important findings from recent studies. It examines concepts and issues that cut across science disciplines to help managers address relevant challenges more holistically. It also addresses gaps in previous synthesis research by considering social and economic concerns of communities. The overarching question that the Science Synthesis Report focuses on is:

Scientific Disciplines Supporting Science Synthesis

- Forest Ecology
- Fire and Fuels
- Water Resources & Aquatic Ecosystems
- Social, Economic, & Cultural
- Air Quality & Pollution
- Wildlife Species of Concern
- Soils
- Forest Genetics
- Post-Fire Management
- Integration Strategies

BASED ON RECENT SCIENTIFIC ADVANCES, WHAT MANAGEMENT STRATEGIES ARE LIKELY TO PROMOTE RESILIENCE OF SOCIO-ECOLOGICAL SYSTEMS AND SUSTAIN VALUES-AT-RISK IN THE SYNTHESIS AREA OVER THE SHORT AND LONG TERM GIVEN EXPECTED STRESSORS?

PSW is trusted by Forest Service stakeholders who requested the synthesis. This stems from the strong support built on the success of *An Ecosystem Management Strategy for Sierra Mixed-Conifer Forests (GTR 220)*, Malcolm North, et al. and subsequent work in 2012. Although regional leadership and stakeholders found that this document served as a useful format, they recommended that the content and scope of this effort expand to address additional biological, social, and economic challenges.

The approach to develop the report was collaborative and interdisciplinary. Scientists from PSW and the Pacific Northwest Research Station engaged on the report. PSW also collaborated with the Region 5 Ecology Program. The scientists participated in the Dialog in December 2011 to gather input on questions to address through the report. The PSW Research Station conducted an internal review with Region 5 planning staff and resource specialists. The report also went through an external peer review. In total, 70 people reviewed the reports (nearly 8-11 per chapter). The report draws on all four PSW program areas and other science communities representing several science disciplines. (See side bar.) The effort involved 19 scientists on the core team.

The new planning rule requires forests to consider the best available science and encourages a more active role for research in plan development. The Science Synthesis can inform management of national forest lands, specifically the ecological integrity of ecosystems, watersheds, and diverse plant and animal communities. The report also synthesizes social and economic sustainability by looking at ecosystem services and multiple use. Another connection is the emphasis on wildland fire and opportunities for fire adapted ecosystems and considering opportunities for landscape scale restoration.

[The final draft report is available on the web.](#) The next step after the Dialog will be for the science synthesis team to meet with the three early adopter forests in California to discuss the report. PSW intends to then publish the report as an official General Technical Report.

INTEGRATION

Jonathon Long of the Pacific Southwest Research Station, who worked on all the chapters and co-authored the integration chapter, closed the day by talking about the integration chapter and questions that the report raised for further inquiry. This chapter considers current management challenges and integrative approaches to promote resilience.

Opportunities for science to inform management will be critical to support forest plan revision. The scientists wrestled with the “line” between science and policy, and Dialog participants urged the scientists to make recommendations on management, stating that it proves helpful in the field when the Forest Service and stakeholders are wrestling with management decisions. The Science Synthesis has identified that research on post-wildfire

impacts (beyond fire severity) can provide insight for land managers. There is also a real need to move forward large-scale adaptive management. This would include landscape-scale modeling and the effects of treating special management areas. Lastly, ecosystem services and community resilience is another area in which science can inform management. The integration chapter speaks to these linkages and more.

RELATED DOCUMENTS

[Science Synthesis Report](#)

http://www.fs.fed.us/psw/publications/reports/psw_sciencesynthesis2013/index.shtml